What is claimed is:

1. An apparatus for simultaneously determining a respective frame alignment in each of a plurality of channels, the apparatus comprising:

means for simultaneously storing a frame alignment state for a plurality of frame bit candidates for each of the plurality of channels;

means for receiving data from the plurality of channels;

means for updating the stored frame alignment state for each of the plurality of frame bit candidates in accordance with the received data; and

means for declaring the respective frame alignment in accordance with the updated frame alignment state for a certain one of the plurality of frame bit candidates for each of the plurality of channels.

2. An apparatus according to claim 1, wherein the updating means includes:

means for retrieving the frame alignment state for certain of the frame bit candidates associated with the received data;

means for comparing the received data with expected framing data based on the retrieved frame alignment states;

means for advancing the retrieved frame alignment states upon a successful comparison of the received data with the expected framing data;

means for withholding advancing of the retrieved frame alignment states upon a failed comparison of the received data with the expected framing data; and

means for replacing the retrieved frame alignment states with the updated frame alignment states in the storing means.

3. An apparatus according to claim 2, wherein the withholding means is operative to reset the retrieved frame alignment states to less advanced states in accordance with current frame alignment strengths indicated by the retrieved frame alignment states.

4. An apparatus according to claim 1, further comprising :

means for polling the plurality of channels for frame alignment requests; and

means for controlling the operation of the receiving means, the updating means and the declaring means for certain of the plurality of channels based on the polled frame alignment requests.

5. An apparatus according to claim 4, wherein each of the plurality of channels includes an inline framer, the inline framer comprising:

means for generating the frame alignment request; and

means for processing channel data using an old frame alignment simultaneously while the respective frame alignment is being determined.

6. An apparatus according to claim 1, wherein the respective frame alignment for a first one of the plurality of channels is in accordance with a first framing scheme, and wherein the respective frame alignment for a second one of the plurality of channels is in accordance with a second framing scheme, the first and second framing schemes both being one of DS1 SF, DS1 DDS, DS1 SLC-96, and ITU-T G.704 based E1.

7. An apparatus according to claim 1, wherein the respective frame alignment for a first one of the plurality of channels is in accordance with a first framing scheme, and wherein the respective frame alignment for a second one of the plurality of channels is in accordance with a second framing scheme, the first and second framing schemes each being a different one of DS1 SF, DS1 DDS, DS1 SLC-96, and ITU-T G.704 based E1.

8. A method for simultaneously determining a respective frame alignment in each of a plurality of channels, the apparatus comprising:

simultaneously storing a frame alignment state for a plurality of frame bit candidates for each of the plurality of channels;

receiving data from the plurality of channels;

updating the stored frame alignment state for each of the plurality of frame bit candidates in accordance with the received data; and

declaring the respective frame alignment in accordance with the updated frame alignment state for a certain one of the plurality of frame bit candidates for each of the plurality of channels.

9. A method according to claim 8, wherein the updating step includes:

retrieving the frame alignment state for certain of the frame bit candidates associated with the received data;

comparing the received data with expected framing data based on the retrieved frame alignment states;

advancing the retrieved frame alignment states upon a successful comparison of the received data with the expected framing data;

withholding advancing of the retrieved frame alignment states upon a failed comparison of the received data with the expected framing data; and

replacing the retrieved frame alignment states with the updated frame alignment states.

10. A method according to claim 9, wherein the withholding step includes resetting the retrieved frame alignment states to less advanced states in accordance with current frame alignment strengths indicated by the retrieved frame alignment states.

11. A method according to claim 8, further comprising :

polling the plurality of channels for frame alignment requests; and

controlling performance of the receiving step, the updating step and the declaring step for certain of the plurality of channels based on the polled frame alignment requests.

12. A method according to claim 11, wherein each of the plurality of channels includes an inline framer, the method further comprising:

processing channel data at the inline framer using an old frame alignment simultaneously while the respective frame alignment is being determined.

13. A method according to claim 8, wherein the respective frame alignment for a first one of the plurality of channels is in accordance with a first framing scheme, and wherein the respective frame alignment for a second one of the plurality of channels is in accordance with a second framing scheme, the first and second framing schemes both being one of DS1 SF, DS1 DDS, DS1 SLC-96, and ITU-T G.704 based E1.

14. A method according to claim 8, wherein the respective frame alignment for a first one of the plurality of channels is in accordance with a first framing scheme, and wherein the respective frame alignment for a second one of the plurality of channels is in accordance with a second framing scheme, the first and second framing schemes each being a different one of DS1 SF, DS1 DDS, DS1 SLC-96, and ITU-T G.704 based E1.

15. An apparatus, comprising:

a frame alignment engine coupled to a bus for commonly receiving data from a plurality of channels, the received data from each of the plurality of channels including a framing pattern embedded at a frame bit offset with respect to an arbitrary starting bit of a stream of data respectively associated with each of the plurality of channels;

a memory coupled to the frame alignment engine, the memory having a plurality of channel state entries respectively corresponding to the plurality of channels, each of the channel state entries including a counter referenced to the arbitrary starting bit, the memory further having a plurality of data state entries for each of the plurality of channels, the plurality of data state entries respectively corresponding to a plurality of frame bit candidates, the frame alignment engine being responsive to data received from a requesting one of the channels so as to retrieve the counter for the requesting channel, and to retrieve certain of the data state entries corresponding to the received data from the requesting channel based on the counter; and

a state machine coupled to the frame alignment engine, the state machine including a comparator that is adapted to compare the data received from the requesting channel with the framing pattern and to update the certain data state entries based on the comparison.

16. An apparatus according to claim 15, wherein each of the plurality of channels includes an inline framer, the inline framer comprising:

a frame register for storing an old frame bit offset;

an out of frame detector coupled to the frame register for processing the respective stream of data using the old frame bit offset simultaneously while the respective frame bit offset is being determined.